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**CLAIMS:**

What is claimed is:

1. A method of controlling access to computer system  
5 resources based on permissions, comprising:  
    receiving a request for access to a computer system  
    resource;  
    determining if a superclass permission of a required  
permission is present in each protection domain of an  
10 access control context;  
    adding the required permission to a permission  
collection if the superclass permission of the required  
permission is present in each protection domain of the  
access control context; and  
15      granting access to the resource if the superclass  
permission of the required permission is present in each  
protection domain of the access control context.
2. The method of claim 1, wherein the request is  
20 received from bytecode.
3. The method of claim 1, further comprising:  
    determining the required permission based on a  
CodeSource associated with the request; and  
25      determining the superclass permission of the  
required permission based on the required permission.
4. The method of claim 1, wherein determining if a  
superclass permission of a required permission is present  
30 in each protection domain includes determining if at  
least one permission collection in each protection domain  
includes the superclass permission.

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5. The method of claim 1, wherein adding the required permission to a permission collection includes creating a new permission collection and adding the required permission to the new permission collection.

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6. The method of claim 5, wherein adding the required permission to a permission collection further includes adding any subclass permissions of the required permission to the new permission collection.

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7. The method of claim 1, further comprising retrieving the access control context for a thread of execution that sent the request for access to the computer system resource.

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8. The method of claim 1, wherein adding the required permission to a permission collection includes adding the permission to a permission collection associated with the superclass permission.

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9. The method of claim 1, wherein the steps of determining if a superclass permission of a required permission is present in each protection domain of an access control context, and adding the required permission to a permission collection if the superclass permission of the required permission is present in each protection domain of an access control context are performed by a method called by the required permission in response to an implies method operating on the required permission.

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10. The method of claim 3, wherein the steps of determining the required permission based on a CodeSource

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associated with the request and determining the superclass permission of the required permission based on the required permission are performed based on a security policy file.

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11. A computer program product in a computer readable medium for controlling access to computer system resources based on permissions, comprising:

- first instructions for receiving a request for  
10 access to a computer system resource;  
second instructions for determining if a superclass permission of a required permission is present in each protection domain of an access control context;  
third instructions for adding the required  
15 permission to a permission collection if the superclass permission of the required permission is present in each protection domain of the access control context; and  
fourth instructions for granting access to the  
computer system resource if the superclass permission of  
20 the required permission is present in each protection domain of the access control context.

12. The computer program product of claim 11, wherein the request is received from bytecode.

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13. The computer program product of claim 11, further comprising:

fifth instructions for determining the required permission based on a CodeSource associated with the  
30 request; and

sixth instructions for determining the superclass permission of the required permission based on the required permission.

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14. The computer program product of claim 11, wherein  
the second instructions for determining if a superclass  
permission of a required permission is present in each  
5 protection domain include instructions for determining if  
at least one permission collection in each protection  
domain includes the superclass permission.

15. The computer program product of claim 11, wherein  
10 the third instructions for adding the required permission  
to a permission collection include instructions for  
creating a new permission collection and instructions for  
adding the required permission to the new permission  
collection.

15 16. The computer program product of claim 15, wherein  
the third instructions for adding the required permission  
to a permission collection further include instructions  
for adding any subclass permissions of the required  
20 permission to the new permission collection.

17. The computer program product of claim 11, further  
comprising fifth instructions for retrieving the access  
control context for a thread of execution that sent the  
25 request for access to the computer system resource.

18. The computer program product of claim 11, wherein  
the third instructions for adding the required permission  
to a permission collection include instructions for  
30 adding the permission to a permission collection  
associated with the superclass permission.

19. The computer program product of claim 11, wherein

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the second and third instructions are part of a method called by the required permission in response to an implies method operating on the required permission.

- 5 20. The computer program product of claim 13, wherein the fifth and sixth instructions are executed based on a security policy file.

21. An apparatus for controlling access to computer  
10 system resources based on permissions, comprising:  
means for receiving a request for access to a computer system resource;  
means for determining if a superclass permission of a required permission is present in each protection  
15 domain of an access control context;  
means for adding the required permission to a permission collection if the superclass permission of the required permission is present in each protection domain of the access control context; and  
20 means for granting access to the computer system resource if the superclass permission of the required permission is present in each protection domain of the access control context.

- 25 22. The apparatus of claim 21, wherein the request is received from bytecode.

23. The apparatus of claim 21, further comprising:  
means for determining the required permission based  
30 on a CodeSource associated with the request; and  
means for determining the superclass permission of the required permission based on the required permission.

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24. The apparatus of claim 21, wherein the means for determining if a superclass permission of a required permission is present in each protection domain includes means for determining if at least one permission  
5 collection in each protection domain includes the superclass permission.

25. The apparatus of claim 21, wherein the means for adding the required permission to a permission collection  
10 includes means for creating a new permission collection and means for adding the required permission to the new permission collection.

26. The apparatus of claim 25, wherein the means for  
15 adding the required permission to a permission collection further includes adding any subclass permissions of the required permission to the new permission collection.

27. The apparatus of claim 21, further comprising means  
20 for retrieving the access control context for a thread of execution that sent the request for access to the computer system resource.

28. The apparatus of claim 21, wherein the means for  
25 adding the required permission to a permission collection includes means for adding the permission to a permission collection associated with the superclass permission.

29. The apparatus of claim 21, wherein the means for  
30 determining if a superclass permission of a required permission is present in each protection domain of an access control context, and the means for adding the required permission to a permission collection if the

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superclass permission of the required permission is  
present in each protection domain of an access control  
context operate based on a method called by the required  
permission in response to an implies method operating on  
5 the required permission.

30. The apparatus of claim 23, wherein the means for  
determining the required permission based on a CodeSource  
associated with the request and means for determining the  
10 superclass permission of the required permission based on  
the required permission operate based on a security  
policy file.